Available online at www.sciencedirect.com
SCIENCE DIRECT®
ELSEVIER
Journal of Organometallic Chemistry 680 (2003) 335–336
Journal of Organometallic Chemistry
www.elsevier.com/locate/jorganchem

Author Index of Volume 680

Barba, V., 294
Barberà, G., 188
Barthelat, J.-C., 182
Barton, L., 212
Bauer, C., 23
Bayer, M.J., 244
Beatty, A.M., 66
Berndt, A., 244
Bochmann, M., 193
Bould, J., 312
Braunschweig, H., 31
Bregadze, V.I., 106
Breitling, F.M., 31
Britten, J.F., 323
Brown, J.M., 329
Byun, Y., 223

Calaza, M.I., 136
Carroll, P.J., 61
Chapman, C.J., 206
Chaudret, B., 182
Chizhevsky, I.T., 111
Chujo, Y., 27
Cirera, M.R., 89
Clark, G.R., 81

Davison, A., 323
Demonceau, A., 89
Dolgushin, F.M., 111
Donnadieu, B., 182
Dörfler, U., 23
Dosangh, P.K., 312

Ellis, D., 286
El-Zaria, M.E., 23
Endo, Y., 223
Entwistle, C.D., 165
Eriksson, L., 188
Essalah, K., 182

Fehlner, T.P., 66
Fernando, D., 100
Fox, M.A., 155, 165
Frost, C.G., 206

Gabel, D., 23
Garcia, P.G., 281
Genady, A.R., 23
Giles, R.L., 257
Gridnev, I., 329
Grimes, R.N., 51
Gullo, E., 31

Hall, D.G., 263
Hamilton, M.G., 143
Happel, T., 244
Herberhold, M., 271
Hofmann, M., 244
Hohn, E., 281
Hong, D., 61
Hosmane, N.S., 173
Howard, J.A.K., 155, 165, 257
Hughes, C.E., 143
Hughes, D.L., 193
Hupe, E., 136

Irvine, G.J., 81
Irving, A.M., 143
Isaac, M.F., 232
Ishiyama, T., 3
Ito, Y., 43

Jelínek, T., 312
Johnsamuel, J., 223
Jones, A.G., 323
Jones, T.P., 223
Ju, Y., 12

Kabalka, G.W., 12
Kahl, S.B., 232
Kennedy, J.D., 312
Kennedy, J.W.J., 263
Kivekäs, R., 89
Knochel, P., 136
Kociok-Köhn, G., 127
Korostylev, A., 329
Kraft, M., 31
Kwiatkowski, M., 124

Lachaize, S., 182
Laing, V.E., 127
Lam, K.-C., 148
Lancaster, S.J., 193
Lesnikowski, Z.J., 124
Li, S., 173
Lin, Z., 148
Liu, D., 148
Londesborough, M.G.S., 312

MacBride, J.A.H., 155
Mackinnon, A., 155
Maguire, J.A., 173
Mahon, M.F., 127
Maisel, H.E., 271
Marder, T.B., 1, 165
Mason, S.A., 165
Massa, W., 244
Matsumoto, F., 27
Matteson, D.S., 100
Meyer, H., 244
Milius, W., 271
Miyaura, N., 3
Montiel, V., 182
Mountford, A.J., 193

Olejniczak, A.B., 124

Paetzold, P., 301
Parvez, M., 218
Patrick, L.G.F., 257
Piers, W.E., 218
Pietruszka, J., 281
Pritzkow, H., 244, 294
Probert, M.R., 257

Rath, N.P., 212
Rifat, A., 127
Robertson, S., 286
Roesler, R., 218
Roper, W.R., 81
Rosair, G.M., 286
Ruggiero, G.D., 127

Sabo-Etienne, S., 182
Safronov, A.V., 111
Sahin, Y., 244
Schaffer, P., 323
Schleyer, P.R., 244
Schormann, M., 193
Semenuk, A., 124
Siebert, W., 244, 294
Sillanpää, R., 89
Sivaev, I.B., 106
Sjöberg, S., 106, 188
Smith, G.E., 257
Smith, P.S., 165
Sneddon, L.G., 61
Štíbr, B., 312
Suginome, M., 43

Teixidor, F., 89, 188
Thornton-Pett, M., 312
Tjarks, W., 223
Tok, O.L., 111
Tolmachev, V., 188

Valliant, J.F., 323
Viñas, C., 89, 188
Vogels, C.M., 143

Elsevier B.V.
doi:10.1016/S0022-328X(03)00746-0

Volkov, O., 212, 301
Vorontsov, E.V., 111

Wade, K., 155
Wadsworth, K.J., 206
Wang, J., 173
Weiss, A., 294
Welch, A.J., 286
Weller, A.S., 127
Westcott, S.A., 143
Whiting, A., 257
Winberg, K.J., 188
Wrackmeyer, B., 271
Wright, L.J., 81
Wu, Z., 12

Yan, H., 66
Yao, H., 51

Zheng, C., 173
Zhu, Y., 173
Ziegler, A., 244
Zinevich, T.V., 111

Available online at www.sciencedirect.com
SCIENCE DIRECT®
ELSEVIER
Journal of Organometallic Chemistry 680 (2003) 337–342
Journal of Organometallic Chemistry
www.elsevier.com/locate/jorganchem

Subject Index of Volume 680

Ab initio computations
Dimesitylborane monomer-dimer equilibrium in solution, and the solid-state structure of the dimer by single crystal neutron and X-ray diffraction, 165
Two-electron homoaromatics with heteroatom bridges, 244
Addition
Regio- and stereoselective synthesis of boryl-substituted allylsilanes via transition metal-catalyzed silaboration, 43
Agostic (C–H···Ir) interaction
First agostic *closo*-metallacarboranes with η^3-cyclooctenyl type ligand: synthesis and structural characterization of *closo*-3-[η^3-(*endo*-1,5-dimethylcycloocten-1-yl)]-1,2-μ-(1′,2′-xylylene)-3,1,2-$IrC_2B_9H_9$ and its isomerization to *closo*-3-[η^3-(*exo*-1-methylene-5-methylcyclooctene-1-yl)]-1,2-μ-[η^2-(1′,2′-xylylene)]-3,1,2-$IrC_2B_9H_9$, 111
Aldehyde
The use of organoboron chlorides and bromides in organic synthesis, 12
Alkene
The use of organoboron chlorides and bromides in organic synthesis, 12
Alkylation
The use of organoboron chlorides and bromides in organic synthesis, 12
Alkyne
The use of organoboron chlorides and bromides in organic synthesis, 12
Alkynes
1,3,2-Diazastanna-[3]ferrocenophanes bearing alkyn-1-yl groups at tin and their 1,1-organoboration with triethylborane—molecular structure of a novel spirotin compound, 271
Reactions of *nido*-1,2-$(Cp^*RuH)_2B_3H_7$ with RC≡CR′ (R, R′ = H, Ph; Me, Me) to yield novel metallacarboranes, 66
Allylation
Regio- and stereoselective synthesis of boryl-substituted allylsilanes via transition metal-catalyzed silaboration, 43
Allylic ligand isomerization
First agostic *closo*-metallacarboranes with η^3-cyclooctenyl type ligand: synthesis and structural characterization of *closo*-3-[η^3-(*endo*-1,5-dimethylcycloocten-1-yl)]-1,2-μ-(1′,2′-xylylene)-3,1,2-$IrC_2B_9H_9$ and its isomerization to *closo*-3-[η^3-(*exo*-1-methylene-5-methylcyclooctene-1-yl)]-1,2-μ-[η^2-(1′,2′-xylylene)]-3,1,2-$IrC_2B_9H_9$, 111
Amido complexes
Ansa-metallocenes with B–N and B–P linkages: the importance of N–H···F–C hydrogen bonding in pentafluorophenyl boron compounds, 193
Amino acids
Enantioselective rhodium-catalysed addition of boronic acids using C_2-symmetric aryl diphosphite ligands, 206
Aminoboron
Catalyzed hydroboration of allyl sulfonamides, 143
Ansa-metallocenes
Ansa-metallocenes with B–N and B–P linkages: the importance of N–H···F–C hydrogen bonding in pentafluorophenyl boron compounds, 193
Antiviral
Synthesis of adenosine containing carborane modification, 124
Arylamine
Synthesis and structure of potential Lewis acid–Lewis base bifunctional catalysts: 1-*N*,*N*-dimethylamino-8-borononaphthalene derivatives, 257
Arylboronate
Synthesis and structure of potential Lewis acid–Lewis base bifunctional catalysts: 1-*N*,*N*-dimethylamino-8-borononaphthalene derivatives, 257
Aryldifluoroborane
Synthesis and structure of potential Lewis acid–Lewis base bifunctional catalysts: 1-*N*,*N*-dimethylamino-8-borononaphthalene derivatives, 257
Asymmetric synthesis
Bromination of tri(isopropyl)boroxine and asymmetric synthesis of (2-cyano-3,3-dimethylcyclopropyl)boronic esters, 100
Azanonaborane
The chemistry of the azanonaborane cluster $RNH_2–B_8H_{11}NHR$, 23

9-BBN
9-BBN activation. Synthesis, crystal structure and theoretical characterization of the ruthenium complex $Ru[(\mu\text{-}H)_2BC_8H_{14}]_2(PCy_3)$, 182
$B_{(cage)}$- and $C_{(cage)}$-silylamido-substituted carboranes
Group 4 metallacarboranes of constrained geometries derived from $B_{(cage)}$- and $C_{(cage)}$-silylamido-substituted carborane ligands: a synthetic and structural investigation, 173
Bis(pinacolato)diboron
Transition metal-catalyzed borylation of alkanes and arenes via C–H activation, 3
BNCT
Synthesis of adenosine containing carborane modification, 124
Borane
Dimesitylborane monomer-dimer equilibrium in solution, and the solid-state structure of the dimer by single crystal neutron and X-ray diffraction, 165
Boranes
9-BBN activation. Synthesis, crystal structure and theoretical characterization of the ruthenium complex $Ru[(\mu\text{-}H)_2BC_8H_{14}]_2(PCy_3)$, 182
Functionalization of the macropolyhedral borate anion cluster $[B_{22}H_{22}]^{2-}$: isolation and characterization of the OH and OEt derivatives, 212
Synthesis, structures and reactivity of macrocyclic imidazolylboranes, 294
Boron
Ansa-metallocenes with B–N and B–P linkages: the importance of N–H···F–C hydrogen bonding in pentafluorophenyl boron compounds, 193

Elsevier B.V.
doi:10.1016/S0022-0328X(03)00744-7

1,3,2-Diazastanna-[3]ferrocenophanes bearing alkyn-1-yl groups at tin and their 1,1-organoboration with triethylborane—molecular structure of a novel spirotin compound, 271
Dimesitylborane monomer-dimer equilibrium in solution, and the solid-state structure of the dimer by single crystal neutron and X-ray diffraction, 165
Reactions of *nido*-1,2-$(Cp^*RuH)_2B_3H_7$ with RC≡CR′ (R, R′ = H, Ph; Me, Me) to yield novel metallacarboranes, 66
Reactions of the dichloroboryl complex of osmium, $Os(BCl_2)Cl(CO)(PPh_3)_2$, with water, alcohols, and amines: Crystal structures of $Os[B(OH)_2]Cl(CO)(PPh_3)_2$, $Os[B(OEt)_2]Cl(CO)(PPh_3)_2$, and $Os[\overline{BN(CH_3)C_6H_4N}(CH_3)]Cl(CO)(PPh_3)_2$, 81
Synthesis and structural characterization of an 11-vertex *nido*-diphosphaborane, 7,9-Ph_2-*nido*-7,9-$P_2B_9H_9$, 61
Synthesis of adenosine containing carborane modification, 124
Synthesis of enantiomerically pure vinylcyclopropylboronic esters via cross-metathesis, 281
Synthesis, structural characterization and reactivity of the amino borane 1-(NPh_2)-2-$[B(C_6F_5)_2]C_6H_4$, 218
The chemistry of [1]borametallocenophanes and related compounds, 31

Boronated porphyrin
Synthesis of ether- and carbon-linked polycarboranyl porphyrin dimers for cancer therapies, 232

Boronate esters
Design of chiral boronate-substituted acrylanilides. Self-activation and boron-transmitted 1,8-stereoinduction in [4+2] cycloaddition, 263

Boron heterocycles
Two-electron homoaromatics with heteroatom bridges, 244

Boron hydrides
Functionalization of the macropolyhedral borate anion cluster $[B_{22}H_{22}]^{2-}$: isolation and characterization of the OH and OEt derivatives, 212

Boronic acid
Synthesis and structure of potential Lewis acid–Lewis base bifunctional catalysts: 1-*N*,*N*-dimethylamino-8-borononaphthalene derivatives, 257

Boronic acids
Enantioselective rhodium-catalysed addition of boronic acids using C_2-symmetric aryl diphosphite ligands, 206

Boronic ester
Bromination of tri(isopropyl)boroxine and asymmetric synthesis of (2-cyano-3,3-dimethylcyclopropyl)boronic esters, 100

Boron neutron capture therapy
$[C_2B_{10}]$–$[B_{12}]$ double cage boron compounds—a new approach to the synthesis of water-soluble boron-rich compounds for BNCT, 106
Synthesis of ether- and carbon-linked polycarboranyl porphyrin dimers for cancer therapies, 232
The chemistry of the azanonaborane cluster RNH_2–$B_8H_{11}NHR$, 23

Boroxine
Bromination of tri(isopropyl)boroxine and asymmetric synthesis of (2-cyano-3,3-dimethylcyclopropyl)boronic esters, 100

Borylation
Regio- and stereoselective synthesis of boryl-substituted allylsilanes via transition metal-catalyzed silaboration, 43

Boryl complexes
Reactions of the dichloroboryl complex of osmium, $Os(BCl_2)Cl(CO)(PPh_3)_2$, with water, alcohols, and amines: Crystal structures of $Os[B(OH)_2]Cl(CO)(PPh_3)_2$, $Os[B(OEt)_2]Cl(CO)(PPh_3)_2$, and $Os[\overline{BN(CH_3)C_6H_4N}(CH_3)]Cl(CO)(PPh_3)_2$, 81

Butterfly conformation
Big macrocyclic assemblies of carboranes (big MACs): synthesis and crystal structure of a macrocyclic assembly of four carboranes containing alternate *ortho*- and *meta*-carborane icosahedra linked by *para*-phenylene units, 155

Carborane
A new strategy for molecular modeling and receptor-based design of carborane containing compounds, 223
exo-closo-Rhodacarboranes: synthesis and characterisation of [{*exo*-$(R_3P)_2Rh$}(closo-$CB_{11}H_{12}$)] [R_3P = $P(OMe)_3$, PCy_3, 1/2dppe], 127
Platination of $[3\text{-}X\text{-}7,8\text{-}Ph_2\text{-}7,8\text{-}nido\text{-}C_2B_9H_8]^{2-}$ (X = Et, F): Synthesis and characterisation of slipped and 1,2→1,7 isomerised products, 286
Synthesis of adenosine containing carborane modification, 124
Synthesis of ether- and carbon-linked polycarboranyl porphyrin dimers for cancer therapies, 232

Carborane icosahedra
Big macrocyclic assemblies of carboranes (big MACs): synthesis and crystal structure of a macrocyclic assembly of four carboranes containing alternate *ortho*- and *meta*-carborane icosahedra linked by *para*-phenylene units, 155

Carboranes
Synthesis of homoleptic Re(I) complexes of isocyano-carboranes and the X-ray structure of hexakis(*p*-carboran-1-yl-isonitrile)Re(I), 323

Catalysis
A versatile rigid binucleating ligand for $Rh_2(\mu\text{-}Cl)_2$ moieties: its application as a catalyst in hydrogenation and cyclopropanation: Crystal structure of $[Rh(C_5Me_5)Cl\{7,8\text{-}\mu\text{-}S(4'\text{-}C_6H_3(CH_3))S\text{-}C_2B_9H_{10}\}][7,8\text{-}\mu\text{-}S(4'\text{-}C_6H_3(CH_3))S\text{-}C_2B_9H_{10}]\cdot THF$, 89
Catalyzed hydroboration of allyl sulfonamides, 143
exo-closo-Rhodacarboranes: synthesis and characterisation of [{*exo*-$(R_3P)_2Rh$}(closo-$CB_{11}H_{12}$)] [R_3P = $P(OMe)_3$, PCy_3, 1/2dppe], 127

Catalyst
High yield [^{125}I]iodide-labeling of iodinated carboranes by palladium-catalyzed isotopic exchange, 188

Catecholborane
Mechanistic and synthetic aspects of hydroboration with a simple atropisomeric ligand prepared from 1-(1′-(isoquinolyl)-2-naphthol, 329

C–C coupling
Synthesis and reaction of secondary and primary diorganozinc reagents using a boron–zinc exchange reaction: A useful method for the stereo- and regioselective formation of new carbon–carbon bonds, 136

C–C coupling
Enantioselective rhodium-catalysed addition of boronic acids using C_2-symmetric aryl diphosphite ligands, 206

C–H borylation
Transition metal-catalyzed borylation of alkanes and arenes via C–H activation, 3

Chiral auxiliaries
Design of chiral boronate-substituted acrylanilides. Self-activation and boron-transmitted 1,8-stereoinduction in [4+2] cycloaddition, 263

closo-Metallacarboranes
First agostic *closo*-metallacarboranes with η^3-cyclooctenyl type ligand: synthesis and structural characterization of *closo*-3-[η^3-(*endo*-1,5-dimethylcycloocten-1-yl)]-1,2-μ-(1′,2′-xylylene)-3,1,2-$IrC_2B_9H_9$ and its isomerization to *closo*-3-[η^3-(*exo*-1-methylene-5-methylcyclooctene-1-yl)]-1,2-μ-[η^2-(1′,2′-xylylene)]-3,1,2-$IrC_2B_9H_9$, 111

closo-Undecaborates
The chemistry of the undecaborates, 301

Cluster
Reactions of *nido*-1,2-$(Cp^*RuH)_2B_3H_7$ with RC≡CR′ (R, R′ = H, Ph; Me, Me) to yield novel metallacarboranes, 66

Cluster expansion
The chemistry of the undecaborates, 301
Cluster rearrangement
The chemistry of the azanonaborane cluster $RNH_2-B_8H_{11}NHR$, 23
Cobaltacarborane clusters
Small cobaltacarborane clusters in synthesis. Peralkylation, perhalogenation, and macrocycle construction, 51
Computer-aided molecular design
A new strategy for molecular modeling and receptor-based design of carborane containing compounds, 223
Conjugate addition
Enantioselective rhodium-catalysed addition of boronic acids using C_2-symmetric aryl diphosphite ligands, 206
π-Conjugated polymers
Poly(cyclodiborazane)s, 27
Constrained geometry
Group 4 metallacarboranes of constrained geometries derived from $B_{(cage)}$- and $C_{(cage)}$-silylamido-substituted carborane ligands: a synthetic and structural investigation, 173
Crystallographic study
Platination of [3-X-7,8-Ph_2-7,8-*nido*-$C_2B_9H_8]^{2-}$ (X = Et, F): Synthesis and characterisation of slipped and 1,2→1,7 isomerised products, 286
Crystal structures
Group 4 metallacarboranes of constrained geometries derived from $B_{(cage)}$- and $C_{(cage)}$-silylamido-substituted carborane ligands: a synthetic and structural investigation, 173
Cyclohexane
Macropolyhedral boron-containing cluster chemistry. Aspects of the $S_2B_{16}H_{16}$ system. Preparation, structure, NMR spectroscopy and isomerism, 312
Cyclooligomerizations
Synthesis, structures and reactivity of macrocyclic imidazolylboranes, 294
Cyclopropanation
A versatile rigid binucleating ligand for $Rh_2(\mu\text{-}Cl)_2$ moieties: its application as a catalyst in hydrogenation and cyclopropanation: Crystal structure of [Rh(C_5Me_5)Cl{7,8-μ-S(4′-C_6H_3-(CH_3))S-$C_2B_9H_{10}$}][7,8-μ-S(4′-$C_6H_3(CH_3)$)S-$C_2B_9H_{10}$]·THF, 89
Cyclopropanes
Synthesis of enantiomerically pure vinylcyclopropylboronic esters via cross-metathesis, 281
Cyclopropylboronic ester
Bromination of tri(isopropyl)boroxine and asymmetric synthesis of (2-cyano-3,3-dimethylcyclopropyl)boronic esters, 100

Density functional theory calculations
Density functional theory studies on structural isomers and bonding of catecholborane adducts of Group 5 metallocene (Nb, Ta) hydride complexes, 148
DFT
9-BBN activation. Synthesis, crystal structure and theoretical characterization of the ruthenium complex Ru[(μ-H)$_2$$BC_8H_{14}]_2$-($PCy_3$), 182
DFT/GIAO
Synthesis and structural characterization of an 11-vertex *nido*-diphosphaborane, 7,9-Ph_2-*nido*-7,9-$P_2B_9H_9$, 61
Diastereoselective synthesis
Synthesis and reaction of secondary and primary diorganozinc reagents using a boron–zinc exchange reaction: A useful method for the stereo- and regioselective formation of new carbon–carbon bonds, 136
Synthesis of enantiomerically pure vinylcyclopropylboronic esters via cross-metathesis, 281
Diels–Alder reactions
Design of chiral boronate-substituted acrylanilides. Self-activation and boron-transmitted 1,8-stereoinduction in [4+2] cycloaddition, 263
Diphosphaborane
Synthesis and structural characterization of an 11-vertex *nido*-diphosphaborane, 7,9-Ph_2-*nido*-7,9-$P_2B_9H_9$, 61
Docking
A new strategy for molecular modeling and receptor-based design of carborane containing compounds, 223
Dodecahydro-*closo*-dodecaborate
[C_2B_{10}]–[B_{12}] double cage boron compounds—a new approach to the synthesis of water-soluble boron-rich compounds for BNCT, 106

Enantiomer
Mechanistic and synthetic aspects of hydroboration with a simple atropisomeric ligand prepared from 1-(1′-(isoquinolyl)-2-naphthol, 329
Equilibrium
Dimesitylborane monomer-dimer equilibrium in solution, and the solid-state structure of the dimer by single crystal neutron and X-ray diffraction, 165
Estrogen receptor
A new strategy for molecular modeling and receptor-based design of carborane containing compounds, 223

Ferrocene
1,3,2-Diazastanna-[3]ferrocenophanes bearing alkyn-1-yl groups at tin and their 1,1-organoboration with triethylborane—molecular structure of a novel spirotin compound, 271
Four-membered rings
Poly(cyclodiborazane)s, 27

Group 4 carborane
Group 4 metallacarboranes of constrained geometries derived from $B_{(cage)}$- and $C_{(cage)}$-silylamido-substituted carborane ligands: a synthetic and structural investigation, 173
Group 5 metallocene (Nb, Ta) hydride HBcat adducts
Density functional theory studies on structural isomers and bonding of catecholborane adducts of Group 5 metallocene (Nb, Ta) hydride complexes, 148

Halides
The use of organoboron chlorides and bromides in organic synthesis, 12
Heteroatom bridges
Ansa-metallocenes with B–N and B–P linkages: the importance of N–H···F–C hydrogen bonding in pentafluorophenyl boron compounds, 193
Heteroborane
Synthesis and structural characterization of an 11-vertex *nido*-diphosphaborane, 7,9-Ph_2-*nido*-7,9-$P_2B_9H_9$, 61
Homoaromaticity
Two-electron homoaromatics with heteroatom bridges, 244
Homoleptic
Synthesis of homoleptic Re(I) complexes of isocyano-carboranes and the X-ray structure of hexakis(*p*-carboran-1-yl-isonitrile)Re(I), 323
Hydroboration
Catalyzed hydroboration of allyl sulfonamides, 143
Synthesis and reaction of secondary and primary diorganozinc reagents using a boron–zinc exchange reaction: A useful method for the stereo- and regioselective formation of new carbon–carbon bonds, 136
Hydrocarbon
Transition metal-catalyzed borylation of alkanes and arenes via C–H activation, 3

Hydrogenation
A versatile rigid binucleating ligand for $Rh_2(\mu\text{-}Cl)_2$ moieties: its application as a catalyst in hydrogenation and cyclopropanation: Crystal structure of [Rh(C_5Me_5)Cl{7,8-μ-S(4′-C_6H_3-(CH_3))S-$C_2B_9H_{10}$}][7,8-μ-S(4′-$C_6H_3(CH_3)$)S-$C_2B_9H_{10}$]·THF, 89
Hydrogen bonding
Ansa-metallocenes with B–N and B–P linkages: the importance of N–H···F–C hydrogen bonding in pentafluorophenyl boron compounds, 193
Synthesis, structural characterization and reactivity of the amino borane 1-(NPh_2)-2-[$B(C_6F_5)_2$]C_6H_4, 218
[^{125}I]iodide
High yield [^{125}I]iodide-labeling of iodinated carboranes by palladium-catalyzed isotopic exchange, 188

Imidazoles
Synthesis, structures and reactivity of macrocyclic imidazolylboranes, 294
Iodinated carboranes
High yield [^{125}I]iodide-labeling of iodinated carboranes by palladium-catalyzed isotopic exchange, 188
Iridium
First agostic *closo*-metallacarboranes with η^3-cyclooctenyl type ligand: synthesis and structural characterization of *closo*-3-[η^3-(*endo*-1,5-dimethylcycloocten-1-yl)]-1,2-μ-(1′,2′-xylylene)-3,1,2-$IrC_2B_9H_9$ and its isomerization to *closo*-3-[η^3-(*exo*-1-methylene-5-methylcyclooctene-1-yl)]-1,2-μ-[η^2-(1′,2′-xylylene)]-3,1,2-$IrC_2B_9H_9$, 111
Iron
The chemistry of [1]borametallocenophanes and related compounds, 31
Isomerisation
Platination of [3-X-7,8-Ph_2-7,8-*nido*-$C_2B_9H_8$]$^{2-}$ (X = Et, F): Synthesis and characterisation of slipped and 1,2→1,7 isomerised products, 286
Isomerism
Macropolyhedral boron-containing cluster chemistry. Aspects of the $S_2B_{16}H_{16}$ system. Preparation, structure, NMR spectroscopy and isomerism, 312
Isomerization
Catalyzed hydroboration of allyl sulfonamides, 143
Isonitriles
Synthesis of homoleptic Re(I) complexes of isocyano-carboranes and the X-ray structure of hexakis(*p*-carboran-1-yl-isonitrile)Re(I), 323
Isotopic exchange
High yield [^{125}I]iodide-labeling of iodinated carboranes by palladium-catalyzed isotopic exchange, 188

Labeling
High yield [^{125}I]iodide-labeling of iodinated carboranes by palladium-catalyzed isotopic exchange, 188
Lewis acid
Synthesis, structural characterization and reactivity of the amino borane 1-(NPh_2)-2-[$B(C_6F_5)_2$]C_6H_4, 218
Lewis acids
Design of chiral boronate-substituted acrylanilides. Self-activation and boron-transmitted 1,8-stereoinduction in [4+2] cycloaddition, 263
Lewis base
Synthesis, structural characterization and reactivity of the amino borane 1-(NPh_2)-2-[$B(C_6F_5)_2$]C_6H_4, 218
Ligand precursors
Group 4 metallacarboranes of constrained geometries derived from $B_{(cage)}$- and $C_{(cage)}$-silylamido-substituted carborane ligands: a synthetic and structural investigation, 173
Macrocycle
Big macrocyclic assemblies of carboranes (big MACs): synthesis and crystal structure of a macrocyclic assembly of four carboranes containing alternate *ortho*- and *meta*-carborane icosahedra linked by *para*-phenylene units, 155
Macrocycles
Synthesis, structures and reactivity of macrocyclic imidazolylboranes, 294
Macrometallocycles
Small cobaltacarborane clusters in synthesis. Peralkylation, perhalogenation, and macrocycle construction, 51
Macropolyhedral borane clusters
Functionalization of the macropolyhedral borate anion cluster $[B_{22}H_{22}]^{2-}$: isolation and characterization of the OH and OEt derivatives, 212
m-Carborane
$[C_2B_{10}]$–$[B_{12}]$ double cage boron compounds—a new approach to the synthesis of water-soluble boron-rich compounds for BNCT, 106
Metallaboranes
Reactions of *nido*-1,2-($Cp^*RuH)_2B_3H_7$ with RC≡CR′ (R, R′ = H, Ph; Me, Me) to yield novel metallacarboranes, 66
Metallacarborane
Platination of [3-X-7,8-Ph_2-7,8-*nido*-$C_2B_9H_8$]$^{2-}$ (X = Et, F): Synthesis and characterisation of slipped and 1,2→1,7 isomerised products, 286
Metallacarboranes
A versatile rigid binucleating ligand for $Rh_2(\mu\text{-}Cl)_2$ moieties: its application as a catalyst in hydrogenation and cyclopropanation: Crystal structure of [Rh(C_5Me_5)Cl{7,8-μ-S(4′-C_6H_3-(CH_3))S-$C_2B_9H_{10}$}][7,8-μ-S(4′-$C_6H_3(CH_3)$)S-$C_2B_9H_{10}$]·THF, 89
Group 4 metallacarboranes of constrained geometries derived from $B_{(cage)}$- and $C_{(cage)}$-silylamido-substituted carborane ligands: a synthetic and structural investigation, 173
Reactions of *nido*-1,2-($Cp^*RuH)_2B_3H_7$ with RC≡CR′ (R, R′ = H, Ph; Me, Me) to yield novel metallacarboranes, 66
Metallation
Synthesis and structure of potential Lewis acid–Lewis base bifunctional catalysts: 1-*N*,*N*-dimethylamino-8-borononaphthalene derivatives, 257
Metallocenophanes
The chemistry of [1]borametallocenophanes and related compounds, 31
Metathesis
Synthesis of enantiomerically pure vinylcyclopropylboronic esters via cross-metathesis, 281

Neutron structure
Dimesitylborane monomer-dimer equilibrium in solution, and the solid-state structure of the dimer by single crystal neutron and X-ray diffraction, 165
nido-Undecaborates
The chemistry of the undecaborates, 301
NMR
exo-closo-Rhodacarboranes: synthesis and characterisation of [{*exo*-($R_3P)_2$Rh}(closo-$CB_{11}H_{12}$)] [R_3P = $P(OMe)_3$, PCy_3, 1/2dppe], 127
Synthesis and structure of potential Lewis acid–Lewis base bifunctional catalysts: 1-*N*,*N*-dimethylamino-8-borononaphthalene derivatives, 257
NMR-multinuclear
1,3,2-Diazastanna-[3]ferrocenophanes bearing alkyn-1-yl groups at tin and their 1,1-organoboration with triethylborane—molecular structure of a novel spirotin compound, 271
NMR spectroscopy

Dimesitylborane monomer-dimer equilibrium in solution, and the solid-state structure of the dimer by single crystal neutron and X-ray diffraction, 165
First agostic *closo*-metallacarboranes with η^3-cyclooctenyl type ligand: synthesis and structural characterization of *closo*-3-[η^3-(*endo*-1,5-dimethylcycloocten-1-yl)]-1,2-μ-(1′,2′-xylylene)-3,1,2-$IrC_2B_9H_9$ and its isomerization to *closo*-3-[η^3-(*exo*-1-methylene-5-methylcyclooctene-1-yl)]-1,2-μ-[η^2-(1′,2′-xylylene)]-3,1,2-$IrC_2B_9H_9$, 111
Functionalization of the macropolyhedral borate anion cluster $[B_{22}H_{22}]^{2-}$: isolation and characterization of the OH and OEt derivatives, 212
Macropolyhedral boron-containing cluster chemistry. Aspects of the $S_2B_{16}H_{16}$ system. Preparation, structure, NMR spectroscopy and isomerism, 312
Nucleosides
Synthesis of adenosine containing carborane modification, 124

o-Carborane
$[C_2B_{10}]$–$[B_{12}]$ double cage boron compounds—a new approach to the synthesis of water-soluble boron-rich compounds for BNCT, 106
Organoboration
1,3,2-Diazastanna-[3]ferrocenophanes bearing alkyn-1-yl groups at tin and their 1,1-organoboration with triethylborane—molecular structure of a novel spirotin compound, 271
Organoboron
Poly(cyclodiborazane)s, 27
The use of organoboron chlorides and bromides in organic synthesis, 12
Organoboron compound
Transition metal-catalyzed borylation of alkanes and arenes via C–H activation, 3
Osmium
Reactions of the dichloroboryl complex of osmium, $Os(BCl_2)Cl(CO)(PPh_3)_2$, with water, alcohols, and amines: Crystal structures of $Os[B(OH)_2]Cl(CO)(PPh_3)_2$, $Os[B(OEt)_2]Cl(CO)(PPh_3)_2$, and $Os[BN(CH_3)C_6H_4N(CH_3)]Cl(CO)(PPh_3)_2$, 81

Palladium
High yield [^{125}I]iodide-labeling of iodinated carboranes by palladium-catalyzed isotopic exchange, 188
p-Carborane
$[C_2B_{10}]$–$[B_{12}]$ double cage boron compounds—a new approach to the synthesis of water-soluble boron-rich compounds for BNCT, 106
Peralkylation
Small cobaltacarborane clusters in synthesis. Peralkylation, perhalogenation, and macrocycle construction, 51
Perhalogenation
Small cobaltacarborane clusters in synthesis. Peralkylation, perhalogenation, and macrocycle construction, 51
Phosphido complexes
Ansa-metallocenes with B–N and B–P linkages: the importance of N–H···F–C hydrogen bonding in pentafluorophenyl boron compounds, 193
Photodynamic therapy
Synthesis of ether- and carbon-linked polycarboranyl porphyrin dimers for cancer therapies, 232
Pinacolborane
Transition metal-catalyzed borylation of alkanes and arenes via C–H activation, 3
Pinanediol
Bromination of tri(isopropyl)boroxine and asymmetric synthesis of (2-cyano-3,3-dimethylcyclopropyl)boronic esters, 100
Polyhydrides
9-BBN activation. Synthesis, crystal structure and theoretical characterization of the ruthenium complex $Ru[(\mu\text{-}H)_2BC_8H_{14}]_2(PCy_3)$, 182
Polymers
Poly(cyclodiborazane)s, 27
Porphyrin
Synthesis of ether- and carbon-linked polycarboranyl porphyrin dimers for cancer therapies, 232
Porphyrin dimer
Synthesis of ether- and carbon-linked polycarboranyl porphyrin dimers for cancer therapies, 232

Remote stereoinduction
Design of chiral boronate-substituted acrylanilides. Self-activation and boron-transmitted 1,8-stereoinduction in [4+2] cycloaddition, 263
Retinoic acid receptor
A new strategy for molecular modeling and receptor-based design of carborane containing compounds, 223
Rhenium
Synthesis of homoleptic Re(I) complexes of isocyano-carboranes and the X-ray structure of hexakis(*p*-carboran-1-yl-isonitrile)Re(I), 323
Rhodium
Catalyzed hydroboration of allyl sulfonamides, 143
Enantioselective rhodium-catalysed addition of boronic acids using C_2-symmetric aryl diphosphite ligands, 206
exo-closo-Rhodacarboranes: synthesis and characterisation of [{*exo*-$(R_3P)_2Rh$}(closo-$CB_{11}H_{12}$)] [$R_3P = P(OMe)_3$, PCy_3, 1/2dppe], 127
Rhodium compounds
A versatile rigid binucleating ligand for $Rh_2(\mu\text{-}Cl)_2$ moieties: its application as a catalyst in hydrogenation and cyclopropanation: Crystal structure of $[Rh(C_5Me_5)Cl\{7,8\text{-}\mu\text{-}S(4'\text{-}C_6H_3(CH_3))S\text{-}C_2B_9H_{10}\}][7,8\text{-}\mu\text{-}S(4'\text{-}C_6H_3(CH_3))S\text{-}C_2B_9H_{10}]\cdot THF$, 89
Ruthenium
9-BBN activation. Synthesis, crystal structure and theoretical characterization of the ruthenium complex $Ru[(\mu\text{-}H)_2BC_8H_{14}]_2(PCy_3)$, 182

Scoring function
A new strategy for molecular modeling and receptor-based design of carborane containing compounds, 223
Sigma-bonded ansa ligand
Group 4 metallacarboranes of constrained geometries derived from $B_{(cage)}$- and $C_{(cage)}$-silylamido-substituted carborane ligands: a synthetic and structural investigation, 173
Silylation
Regio- and stereoselective synthesis of boryl-substituted allylsilanes via transition metal-catalyzed silaboration, 43
Skeletal fluctuation
The chemistry of the undecaborates, 301
Spectroscopy
Platination of [3-X-7,8-Ph_2-7,8-*nido*-$C_2B_9H_8]^{2-}$ (X = Et, F): Synthesis and characterisation of slipped and 1,2→1,7 isomerised products, 286
Stereoselective synthesis
Design of chiral boronate-substituted acrylanilides. Self-activation and boron-transmitted 1,8-stereoinduction in [4+2] cycloaddition, 263
Structural isomers
Density functional theory studies on structural isomers and bonding of catecholborane adducts of Group 5 metallocene (Nb, Ta) hydride complexes, 148

Styrene
Mechanistic and synthetic aspects of hydroboration with a simple atropisomeric ligand prepared from 1-(1′-(isoquinolyl)-2-naphthol, 329
Substituent effects
Design of chiral boronate-substituted acrylanilides. Self-activation and boron-transmitted 1,8-stereoinduction in [4+2] cycloaddition, 263
Sulfonamides
Catalyzed hydroboration of allyl sulfonamides, 143
Synthesis
Platination of [3-X-7,8-Ph_2-7,8-*nido*-$C_2B_9H_8$]$^{2-}$ (X = Et, F): Synthesis and characterisation of slipped and 1,2→1,7 isomerised products, 286

Technetium
Synthesis of homoleptic Re(I) complexes of isocyano-carboranes and the X-ray structure of hexakis(*p*-carboran-1-yl-isonitrile)Re(I), 323
Three-center two-electron bonds
Two-electron homoaromatics with heteroatom bridges, 244
Tin
1,3,2-Diazastanna-[3]ferrocenophanes bearing alkyn-1-yl groups at tin and their 1,1-organoboration with triethylborane—molecular structure of a novel spirotin compound, 271
Titanium
The chemistry of [1]borametallocenophanes and related compounds, 31
Transition metal complexes
Transition metal-catalyzed borylation of alkanes and arenes via C–H activation, 3
Transmetallation
Synthesis and reaction of secondary and primary diorganozinc reagents using a boron–zinc exchange reaction: A useful method for the stereo- and regioselective formation of new carbon–carbon bonds, 136

Vertex labelling
Platination of [3-X-7,8-Ph_2-7,8-*nido*-$C_2B_9H_8$]$^{2-}$ (X = Et, F): Synthesis and characterisation of slipped and 1,2→1,7 isomerised products, 286

X-ray
1,3,2-Diazastanna-[3]ferrocenophanes bearing alkyn-1-yl groups at tin and their 1,1-organoboration with triethylborane—molecular structure of a novel spirotin compound, 271
Synthesis and structure of potential Lewis acid–Lewis base bifunctional catalysts: 1-*N*,*N*-dimethylamino-8-borononaphthalene derivatives, 257
X-ray crystal structures
Reactions of the dichloroboryl complex of osmium, Os(BCl_2)Cl(CO)(PPh_3)$_2$, with water, alcohols, and amines: Crystal structures of Os[$B(OH)_2$]Cl(CO)(PPh_3)$_2$, Os[$B(OEt)_2$]Cl(CO)(PPh_3)$_2$, and Os[$\overline{BN(CH_3)C_6H_4N(CH_3)}$]Cl(CO)($PPh_3$)$_2$, 81
X-ray diffraction
First agostic *closo*-metallacarboranes with η^3-cyclooctenyl type ligand: synthesis and structural characterization of *closo*-3-[η^3-(*endo*-1,5-dimethylcycloocten-1-yl)]-1,2-μ-(1′,2′-xylylene)-3,1,2-$IrC_2B_9H_9$ and its isomerization to *closo*-3-[η^3-(*exo*-1-methylene-5-methylcyclooctene-1-yl)]-1,2-μ-[η^2-(1′,2′-xylylene)]-3,1,2-$IrC_2B_9H_9$, 111
Functionalization of the macropolyhedral borate anion cluster $[B_{22}H_{22}]^{2-}$: isolation and characterization of the OH and OEt derivatives, 212
Synthesis, structural characterization and reactivity of the amino borane 1-(NPh_2)-2-[$B(C_6F_5)_2$]C_6H_4, 218
X-ray structure
Dimesitylborane monomer-dimer equilibrium in solution, and the solid-state structure of the dimer by single crystal neutron and X-ray diffraction, 165

Zinc organometallics
Synthesis and reaction of secondary and primary diorganozinc reagents using a boron–zinc exchange reaction: A useful method for the stereo- and regioselective formation of new carbon–carbon bonds, 136
Zinc reagents
Synthesis of enantiomerically pure vinylcyclopropylboronic esters via cross-metathesis, 281
Zirconium
The chemistry of [1]borametallocenophanes and related compounds, 31
Zwitterions
Two-electron homoaromatics with heteroatom bridges, 244